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subcutaneously in the neck, in the presence of QS-21 (purified fraction of saponin extracted from *Quillaja Saponaria Molina*), and the mice that received urease plus LT orally exhibited a 10- to 100-fold decrease in the infection when compared with the unimmunized mice. The BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) adjuvant induced an identical decrease, which was more pronounced in the mice immunized in the lumbar region.

Page 37, lines 2-8:

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In contrast to the monkeys receiving the mucosal prime/parenteral boost regimen, monkeys immunized by the parenteral route with urease + BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) showed no difference in *H. pylori* colonization compared with the sham-immunized controls ($p = 1.00$), while monkeys treated with urease + alum showed a partial effect ($p=0.33$) (Figure 8). Culture data was unavailable for one of the monkeys in the group receiving urease + BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate), due to heavy contamination of gastric samples with other bacteria.

In the Claims:

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Please cancel claims 10, 12, 16, 17, and 41, without prejudice, and amend claims 5, 7- 9, 25, 37, 38, 45, and 46 to read as follows.

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5. (Twice Amended) A method of inducing a prophylactically effective immune response against *Helicobacter* in a mammal, said method consisting essentially of administering to said mammal a prophylactically effective amount of a prophylactically effective *Helicobacter pylori* polypeptide antigen by the subdiaphragmatic, systemic route.

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7. (Amended three times) The method of Claim 6, further comprising induction of a Th2-type immune response, wherein the immune response of said mammal is characterized by either

C18 (i) a ratio of the ELISA IgG2a:IgG1 titers greater than or equal to 1:100, or (ii) a ratio of the ELISA IgG2a:IgA titers greater than or equal to 1:100.

8. (Twice Amended) The method of Claim 7, in which the immune response of said mammal is characterized either (i) by a ratio of the ELISA IgG2a:IgG1 titers greater than or equal to 1:10, or (ii) by a ratio of the ELISA IgG2a:IgA titers greater than or equal to 1:10.

C19 9. (Twice Amended) The method of Claim 8, in which the immune response of said mammal is characterized either (i) by a ratio of the ELISA IgG2a:IgG1 titers greater than or equal to 1:2, or (ii) by a ratio of the ELISA IgG2a:IgA titers greater than or equal to 1:2.

25. (Twice Amended) A method of inducing a prophylactically effective immune response against *Helicobacter* infection in a mammal, said method comprising in order the steps of:

C20 mucosally administering a prophylactically effective amount of a prophylactically effective *Helicobacter pylori* antigen to said mammal; and then

parenterally administering a prophylactically effective amount of a prophylactically effective *Helicobacter pylori* antigen to said mammal.

C21 37. (Amended) The method of claim 25, further comprising carrying out more than one mucosal administration.

38. (Amended) The method of claim 25, further comprising carrying out more than one
parenteral administration.

45. (Amended) The method of Claim 25, further comprising mucosally co-administering a mucosal adjuvant selected from the group consisting of *Escherichia coli* heat labile enterotoxin (LT), cholera toxin (CT), *Clostridium difficile* toxin, *Pertussis* toxin (PT), and combinations, subunits, toxoids, and mutants derived therefrom with the mucosally administered *Helicobacter pylori* antigen.

46. (Amended) The method of Claim 25, in which a parenteral adjuvant selected from the group consisting of alum, QS-21 (purified fraction of saponin extracted from *Quillaria Saponaria Molina*), DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol), and BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) is co-administered with the parenterally administered *Helicobacter pylori* antigen.
